WHAT IS CLAIMED IS:

1. An implantable system for draining cerebrospinal fluid (CSF), said system comprising:

a conduit having a first opening and a second opening, the first opening of the conduit being adapted to be disposed in fluid communication with a space within a patient's CSF space and the second opening being adapted to be disposed in fluid communication with a drainage location in another portion of the patients body;

a pump coupled to the conduit to induce flow from the CSF space to the drainage location; and

an implantable power source connectable to power the pump.

2. A system as in claim 1, wherein the pump is of a type selected from the group consisting of diaphragm pumps, piston pumps, rotor pumps, peristaltic pumps, and screw pumps.

3. A system as in claim 1, wherein the power source is a battery.

4. A system as in claim 1, wherein the power source is a mechanical energy storage device.

5. A system as in claim 1, wherein the pump is adapted to be operated on demand.

6. A system as in claim 1, wherein the pump is pre-programmed to operate on a schedule.

7. A system as in claim 1, wherein the pump comprises a hermetically sealed pump drive.

8. A system as in claim 1, further comprising a recirculation loop and a valve in the recirculation loop, wherein the valve selectively directs flow to the drainage end of the conduit or to an inlet of the pump.

9. A system as in claim 8, further comprising a pressure controller connected to the valve to control pump bypass flow in response to pressure.

10. A system as in claim 1, wherein the conduit comprises:

a ventricular catheter having a proximal end and a distal end adapted for implantation into the CSF space; and

a peritoneal catheter having a proximal end and a distal end adapted for implantation into the drainage location in the patient's peritoneum, wherein the pump is connected to receive CSF from the ventricular catheter and deliver CSF to the peritoneal catheter.

11. A system as in claim 10, wherein the ventricular catheter has a length in the range from 10 cm to 50 cm and a lumen having a diameter in the range from 0.1 mm to 2 mm.

12. A system as in claim 10, wherein the peritoneal catheter has a length in the range from 25 cm to 125 cm and a lumen having a diameter in the range from 0.1 mm to 2 mm.

13. A method for draining cerebrospinal fluid (CSF) from a CSF space of a patient, said method comprising:

providing energy to an implanted pump coupled to a conduit, implanted to drain CSF from the CSF space to a drainage location.

14. A method as in claim 13, wherein the energy source is a battery.

15. A method as in claim 13, wherein the energy source is a mechanical energy source.